

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) A photo-catalyst containing a titanium ~~fluoride nitride~~ (IV) compound comprising, $\text{Ti(IV)O}_a\text{Nb}_b\text{F}_c$ or a compound represented by $\text{MeTi(IV)O}_a\text{Nb}_b\text{F}_c$ prepared by doping at least one metal Me selected from the group consisting of alkali or alkaline earth metals on $\text{Ti(IV)O}_a\text{Nb}_b\text{F}_c$, wherein, b is 0.1 to 1, c is 0.1 to 1 and a is a value to maintain Ti(IV) and is decided in relation to b and c.

2. (Currently amended) The photo-catalyst ~~containing titanium fluoride nitride~~ of claim 1 ~~to which~~ further comprising at least one promoter selected from the group consisting of Pt, Ni and Pd ~~is loaded~~.

3. (Currently amended) The photo-catalyst ~~containing titanium fluoride nitride~~ of claim 1, wherein $\text{Ti(IV)O}_a\text{Nb}_b\text{F}_c$ possesses ~~anatase~~ anatase structure and $\text{MeTi(IV)O}_a\text{Nb}_b\text{F}_c$ possesses perovskite to ~~anatase~~ anatase structure.

4. (Currently amended) The photo-catalyst ~~containing titanium fluoride nitride~~ of claim 3 ~~to which~~ further comprising at least one promoter selected from the group consisting of Pt,

Ni and Pd ~~is loaded~~.

5. (Currently amended) A photo-catalyst for water splitting containing a titanium fluoride nitride (IV) compound comprising, $\text{Ti(IV)O}_a\text{N}_b\text{F}_c$ or a compound represented by $\text{MeTi(IV)O}_a\text{N}_b\text{F}_c$ prepared by doping at least one metal Me selected ~~from the~~ from the group consisting of alkali or alkaline earth metals on $\text{Ti(IV)O}_a\text{N}_b\text{F}_c$, wherein, b is 0.1 to 1, c is 0.1 to 1 and a is a value to maintain Ti(IV) and is decided in relation with b and c.

6. (Currently amended) The photo-catalyst for water splitting ~~containing titanium fluoride nitride~~ of claim 5 to ~~which~~ further comprising at least one promoter selected from the group consisting of Pt, Ni, Ru and Pd ~~is loaded~~.

7. (Currently amended) The photo-catalyst for water splitting ~~containing titanium fluoride nitride~~ of claim 5, wherein $\text{Ti(IV)O}_a\text{N}_b\text{F}_c$ possesses ~~anatase~~ anatase structure and $\text{MeTi(IV)O}_a\text{N}_b\text{F}_c$ possesses perovskite to ~~anatase~~ anatase structure.

8. (Currently amended) The photo-catalyst for water splitting ~~containing titanium fluoride nitride~~ of claim 7 to ~~which~~ further comprising at least one promoter selected from the group consisting of Pt, Ni and Pd ~~is loaded~~.

9. (Currently amended) A method for preparation of a photocatalyst represented by $\text{Ti(IV)O}_a\text{N}_b\text{F}_c$, wherein ~~a, b and c are same as to claim 1~~ by b is 0.1 to 1, c is 0.1 to 1 and a is a value to maintain Ti(IV) and is decided in relation to b and c, comprising baking titanium di-ammonium fluoride halide represented by $(\text{HH}_4)_2\text{TiF}_d\text{X}_{6-d}$ $(\text{NH}_4)_2\text{TiF}_d\text{X}_{6-d}$, wherein, d is 1-6, and which contains at least F and ammonium halide by the ratio of equimolar or by the ratio of slightly excess of ammonium halide, at the maximum temperature from 200°C to 500°C ~~so as to form~~ whereby a starting material is formed, then followed by nitrogenating said starting material ~~is nitrogenated~~ by thermal synthesis in ammonia atmosphere containing from 0.02% to 10.00% of oxygen, air or water to ammonia by reduced mass to oxygen atom at the maximum temperature from 350°C to 700°C for over than 5 hours.

10. (Currently amended) A method for preparation of a photocatalyst represented by $\text{SrTi(IV)O}_a\text{N}_b\text{F}_c$, wherein, ~~a, b and c are same as to claim 1~~, by b is 0.1 to 1, c is 0.1 to 1 and a is a value to maintain Ti(IV) and is decided in relation to b and c, comprising baking titanium di-ammonium fluoride halide represented by $\text{TiF}_x\text{X}_{6-x}$ and/or $(\text{HH}_4)_2\text{TiF}_d\text{X}_{6-d}$ $(\text{NH}_4)_2\text{TiF}_d\text{X}_{6-d}$, wherein x and d are 1-6, and which contains at least F, and at least one compound selected from the group consisting of SrO, SrOH and SrX so as to form a starting material or SrTiF_6 , then followed by nitrogenating said starting material or SrTiF_6 ~~is nitrogenated~~ by

thermal synthesis in ammonia atmosphere containing from 0.02% to 10.00% of oxygen, air or water to ammonia by reduced mass to oxygen atom at the maximum temperature from 350°C to 700°C for over than 5 hours.